

## Declaration for Patent Application

Docket Number: **1875.1540001**

As a below named inventor, I hereby declare that:

My residence, mailing address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter that is claimed and for which a patent is sought on the invention entitled: **Receiver Having Decisional Feedback Equalizer With Remodulation and Related Methods.**

the specification of which is attached hereto unless the following box is checked:

- ☒ was filed on **June 7, 2002**;  
as United States Application Number or PCT International Application Number **10/163,871**; and  
was amended on \_\_\_\_\_ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information that is material to patentability as defined in 37 C.F.R. § 1.56, including for continuation-in-part applications, material information that became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. § 119(a)-(d) or (f), or § 365(b) of any foreign application(s) for patent, inventor's or plant breeder's rights certificate(s), or § 365(a) of any PCT international application, which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent, inventor's or plant breeder's rights certificate(s), or PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)

Priority Claimed

\_\_\_\_\_  
(Application No.)

\_\_\_\_\_  
(Country)

\_\_\_\_\_  
(Day/Month/Year Filed)

☐ Yes ☐ No

\_\_\_\_\_  
(Application No.)

\_\_\_\_\_  
(Country)

\_\_\_\_\_  
(Day/Month/Year Filed)

☐ Yes ☐ No

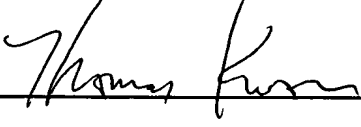
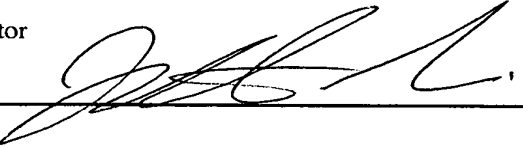
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1100 New York Avenue, N.W.  
Suite 600  
Washington, D.C. 20005-3934

Direct Telephone Calls to:

(202) 371-2600

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole or first inventor	Thomas D. KWON	
Signature of sole or first inventor		Date 9-6-02
Residence	Irvine, California	
Citizenship	United States	
Mailing Address	77 Tidewind, Irvine, California 92612	
Full name of second inventor	Jonathan S. MIN	
Signature of second inventor		Date 9-6-02
Residence	Buena Park, California	
Citizenship	United States	
Mailing Address	6602 Notre Dame Drive, Buena Park, California 90620	
Full name of third inventor	Fang LU	
Signature of third inventor		Date
Residence	Rowland Heights, California	
Citizenship	United States	
Mailing Address	2291 Wind River Lane, Rowland Heights, California 91748	

Full name of fourth inventor	<b>Thomas J. KOLZE</b>
Signature of fourth inventor	Date
Residence	<b>Phoenix, Arizona</b>
Citizenship	<b>United States</b>
Mailing Address	<b>16037 S. 18<sup>th</sup> Place, Phoenix, Arizona 85048</b>

::ODMA\MHODMA\SKGF\_DC1;41056;1

(Supply similar information and signature for subsequent joint inventors, if any)

## Declaration for Patent Application

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Priority Claimed

_____ (Application No.)	_____ (Country)	_____ (Day/Month/Year Filed)
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☐ Yes ☐ No

☐ Yes ☐ No

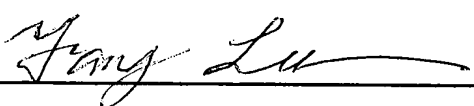
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Signature of second inventor	Date	
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Citizenship	United States	
Mailing Address	6602 Notre Dame Drive, Buena Park, California 90620	
Full name of third inventor	Fang LU	
Signature of third inventor		Date 8-12-02
Residence	Rowland Heights, California	
Citizenship	United States	
Mailing Address	2291 Wind River Lane, Rowland Heights, California 91748	

Full name of fourth inventor	<b>Thomas J. KOLZE</b>
Signature of fourth inventor	Date
Residence	<b>Phoenix, Arizona</b>
Citizenship	<b>United States</b>
Mailing Address	<b>16037 S. 18<sup>th</sup> Place, Phoenix, Arizona 85048</b>

::ODMAMHODMA\SKGF\_DC1;41056;1

(Supply similar information and signature for subsequent joint inventors, if any)

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\_\_\_\_\_  
(Country)

\_\_\_\_\_  
(Day/Month/Year Filed)

☐ Yes ☐ No

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Full name of third inventor	Fang LU
Signature of third inventor	Date
Residence	Rowland Heights, California
Citizenship	United States
Mailing Address	2291 Wind River Lane, Rowland Heights, California 91748



Appl. No. 10/163,871  
Docket No. 1875.1540001

Full name of fourth inventor	Thomas J. KOLZE	
Signature of fourth inventor	<i>Thomas J. Kolze</i>	Date 09 Sep 2002
Residence	Phoenix, Arizona	
Citizenship	United States	
Mailing Address	16037 S. 18 <sup>th</sup> Place, Phoenix, Arizona 85048	

FORM 100 (10/1/01)

(Supply similar information and signature for subsequent joint inventors, if any)

## POWER OF ATTORNEY FROM ASSIGNEE

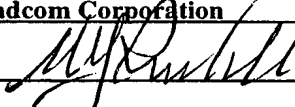
**Broadcom Corporation**, a corporation of **California**, having a principal place of business at **16215 Alton Parkway, Irvine, California 92618-3616**, is assignee of the entire right, title and interest for the United States of America (as defined in 35 U.S.C. § 100), by reason of an Assignment to the Assignee executed on **(1) September 6, 2002, (2) September 6, 2002, (3) August 12, 2002, (4) September 9, 2002** of an invention known as **Receiver Having Decisional Feedback Equalizer With Remodulation and Related Methods** (Attorney Docket No. **1875.1540001**), which is disclosed and claimed in a patent application of the same title by the inventor(s) **(1) Thomas D. KWON, (2) Jonathan S. MIN, (3) Fang LU, (4) Thomas J. KOLZE** (said application filed on **June 7, 2002** at the U.S. Patent and Trademark Office, having Application Number **10/163,871**).

The Assignee hereby appoint the U.S. attorneys James D. Bennett, Registration No. 37,550, and David J. Rosmann, Registration No. 43,059, and the attorneys associated with **CUSTOMER NUMBER 28393** to prosecute this application and any continuation, divisional, continuation-in-part, or reissue application thereof, and to transact all business in the U.S. Patent and Trademark Office connected therewith, such attorneys currently being: Robert Greene Sterne, Esq., Reg. No. 28,912; Edward J. Kessler, Esq., Reg. No. 25,688; Jorge A. Goldstein, Esq., Reg. No. 29,021; David K.S. Cornwell, Esq., Reg. No. 31,944; Robert W. Esmond, Esq., Reg. No. 32,893; Tracy-Gene G. Durkin, Esq., Reg. No. 32,831; Michele A. Cimbala, Esq., Reg. No. 33,851; Michael B. Ray, Esq., Reg. No. 33,997; Robert E. Sokohl, Esq., Reg. No. 36,013; Eric K. Steffe, Esq., Reg. No. 36,688; Michael Q. Lee, Esq., Reg. No. 35,239; Steven R. Ludwig, Esq., Reg. No. 36,203; John M. Covert, Esq., Reg. No. 38,759; and Linda E. Alcorn, Esq., Reg. No. 39,588; Lawrence B. Bugaisky, Esquire, Registration No. 35,086; Donald J. Featherstone, Esquire, Registration No. 33,876; and Robert C. Millonig, Esquire, Registration No. 34,395. The Assignee hereby grants said attorneys the power to insert on this Power of Attorney any further identification that may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office.

Send correspondence to:

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.  
1100 New York Avenue, N.W.  
Suite 600  
Washington, D.C. 20005-3934  
U.S.A.

Direct phone calls to 202-371-2600.

FOR: **Broadcom Corporation**  
SIGNATURE:   
BY: **William J. Ruehle**  
TITLE: **Vice President and Chief Financial Officer**  
DATE: **October 23, 2002**

## Certificate Under 37 C.F.R. § 3.73(b)

Applicants/Patent Owner: Thomas D. KWON et al.

Application No./Patent No.: 10/163,871 Filed/Issue Date: June 7, 2002 Attorney Docket No.: 1875.1540001

Entitled: Receiver Having Decisional Feedback Equalizer With Remodulation and Related Methods

Broadcom Corporation, a Corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1. ☒ the assignee of the entire right, title, and interest, or
2. ☐ an assignee of an undivided part interest

in the patent application/patent identified above by virtue of either:

A. ☒ An Assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

OR

B. ☐ A chain of title from the inventor(s) of the patent application/patent identified above to the current assignee as shown below:

1. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

2. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

3. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet.

☐ Copies of assignments or other documents in the chain of title are attached.

**[NOTE:** A separate copy (*i.e.*, the original assignment document or a true copy of the original document) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the PTO. See MPEP 302-302.8]

The undersigned (whose title is supplied below) is empowered to act on behalf of the assignee.

Date: October 23, 2002

Name: William J. Ruehle

Title: Vice President and Chief Financial Officer

Signature: [Signature]

**DO NOT FORWARD  
TO ASSIGNMENT BRANCH  
NOT FOR RECORDATION**

**ASSIGNMENT**

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NOT FOR RECORDATION**

In consideration of the sum of One Dollar (\$1.00) or equivalent and other good and valuable consideration paid to each of the undersigned inventor(s): **(1) Thomas D. KWON, (2) Jonathan S. MIN, (3) Fang LU, (4) Thomas J. KOLZE** signed inventor(s) hereby sell(s) and assign(s) to **Broadcom Corporation** (the Assignee) his/her entire right, title and interest, including the right to sue for past infringement and to collect for all past, present and future damages:

check applicable box(es) ☒ for the United States of America (as defined in 35 U.S.C. § 100),  
☒ and throughout the world,

(a) in the invention(s) known as **Receiver Having Decisional Feedback Equalizer With Remodulation and Related Methods** for which application(s) for patent in the United States of America has (have) been executed by the undersigned on (1) 9/6/02  
(2) 9/6/02, (3) \_\_\_\_\_, (4) \_\_\_\_\_ (also known as United States Application No. **10/163,871**, filed **June 7, 2002**), in any and all applications thereon, in any and all Letters Patent(s) therefor, and

(b) in any and all applications that claim the benefit of the patent application listed above in part (a), including continuing applications, reissues, extensions, renewals and reexaminations of the patent application or Letters Patent therefor listed above in part (a), to the full extent of the term or terms for which Letters Patents issue, and

(c) in any and all inventions described in the patent application listed above in part (a), and in any and all forms of intellectual and industrial property protection derivable from such patent application, and that are derivable from any and all continuing applications, reissues, extensions, renewals and reexaminations of such patent application, including, without limitation, patents, applications, utility models, inventor's certificates, and designs together with the right to file applications therefor; and including the right to claim the same priority rights from any previously filed applications under the International Agreement for the Protection of Industrial Property, or any other international agreement, or the domestic laws of the country in which any such application is filed, as may be applicable;

all such rights, title and interest to be held and enjoyed by the above-named Assignee, its successors, legal representatives and assigns to the same extent as all such rights, title and interest would have been held and enjoyed by the Assignor had this assignment and sale not been made.

The undersigned inventor(s) agree(s) to execute all papers necessary in connection with the application(s) and any continuing (continuation, divisional, or continuation-in-part), reissue, reexamination or corresponding application(s) thereof and also to execute separate assignments in connection with such application(s) as the Assignee may deem necessary or expedient.

The undersigned inventor(s) agree(s) to execute all papers necessary in connection with any interference or patent enforcement action (judicial or otherwise) related to the application(s) or any continuing (continuation, divisional, or continuation-in-part), reissue or reexamination application(s) thereof and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such interference or patent enforcement action.

The undersigned inventor(s) hereby represent(s) that he/she has full right to convey the entire interest herein assigned, and that he/she has not executed, and will not execute, any agreement in conflict therewith.

The undersigned inventor(s) hereby grant(s) James D. Bennett, Registration No. 37,550, and David J. Rosmann, Registration No. 43,059, of Broadcom Corporation, 16215 Alton Parkway, Irvine, CA 92618-3616, and Robert Greene Sterne, Esquire, Registration No. 28,912; Edward J. Kessler, Esquire, Registration No. 25,688; Jorge A. Goldstein, Esquire, Registration No. 29,021; David K.S. Cornwell, Esquire, Registration No. 31,944; Robert

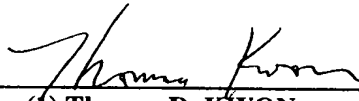
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IN WITNESS WHEREOF, executed by the undersigned inventor(s) on the date opposite his/her name.

Date: 9-6-02 Signature of Inventor:   
(4) Thomas D. KWON

Date: 9-6-02 Signature of Inventor:   
(2) Jonathan S. MIN

Date: \_\_\_\_\_ Signature of Inventor: \_\_\_\_\_  
(3) Fang LU

Date: \_\_\_\_\_ Signature of Inventor: \_\_\_\_\_  
(4) Thomas J. KOLZE

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(c) in any and all inventions described in the patent application listed above in part (a), and in any and all forms of intellectual and industrial property protection derivable from such patent application, and that are derivable from any and all continuing applications, reissues, extensions, renewals and reexaminations of such patent application, including, without limitation, patents, applications, utility models, inventor's certificates, and designs together with the right to file applications therefor; and including the right to claim the same priority rights from any previously filed applications under the International Agreement for the Protection of Industrial Property, or any other international agreement, or the domestic laws of the country in which any such application is filed, as may be applicable;

all such rights, title and interest to be held and enjoyed by the above-named Assignee, its successors, legal representatives and assigns to the same extent as all such rights, title and interest would have been held and enjoyed by the Assignor had this assignment and sale not been made.

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(3) Fang LU

Date: \_\_\_\_\_ Signature of Inventor: \_\_\_\_\_  
(4) Thomas J. KOLZE

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### ASSIGNMENT

In consideration of the sum of One Dollar (\$1.00) or equivalent and other good and valuable consideration paid to each of the undersigned inventor(s): (1) Thomas D. KWON, (2) Jonathan S. MIN, (3) Frank L.J. (4) Thomas J. KOLZE signed inventor(s) hereby sell(s) and assign(s) to Broadcom Corporation (the Assignee) his/her entire right, title and interest, including the right to sue for past infringement and to collect for all past, present and future damages:

check applicable box(es) ☒ for the United States of America (as defined in 35 U.S.C. § 100),  
☒ and throughout the world,

(a) in the invention(s) known as Receiver Having Decisional Feedback Equalizer With Remodulation and Related Methods for which application(s) for patent in the United States of America has (have) been executed by the undersigned on (1) 9/9/02  
(2)                      (3)                      (4) 9/9/02 (also known as United States Application No. 10/163,871), filed June 7, 2002, in any and all applications thereon, in any and all Letters Patent(s) therefor, and

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(b) in any and all applications that claim the benefit of the patent application listed above in part (a), including continuing applications, reissues, extensions, renewals and reexaminations of the patent application or Letters Patent therefor listed above in part (a), to the full extent of the term or terms for which Letters Patents issue, and

(c) in any and all inventions described in the patent application listed above in part (a), and in any and all forms of intellectual and industrial property protection derivable from such patent application, and that are derivable from any and all continuing applications, reissues, extensions, renewals and reexaminations of such patent application, including, without limitation, patents, applications, utility models, inventor's certificates, and designs together with the right to file applications therefor, and including the right to claim the same priority rights from any previously filed applications under the International Agreement for the Protection of Industrial Property, or any other international agreement, or the domestic laws of the country in which any such application is filed, as may be applicable;

all such rights, title and interest to be held and enjoyed by the above-named Assignee, its successors, legal representatives and assigns to the same extent as all such rights, title and interest would have been held and enjoyed by the Assignor had this assignment and sale not been made.

The undersigned inventor(s) agree(s) to execute all papers necessary in connection with the application(s) and any continuing (continuation, divisional, or continuation-in-part), reissue, reexamination or corresponding application(s) thereof and also to execute separate assignments in connection with such application(s) as the Assignee may deem necessary or expedient.

The undersigned inventor(s) agree(s) to execute all papers necessary in connection with any interference or patent enforcement action (judicial or otherwise) related to the application(s) or any continuing (continuation, divisional, or continuation-in-part), reissue or reexamination application(s) thereof and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such interference or patent enforcement action.

The undersigned inventor(s) hereby represent(s) that he/she has full right to convey the entire interest herein assigned, and that he/she has not executed, and will not execute, any agreement in conflict therewith.

The undersigned inventor(s) hereby grant(s) James D. Bennett, Registration No. 37,550, and David J. Rosmann, Registration No. 43,059, of Broadcom Corporation, 16215 Alton Parkway, Irvine, CA 92618-3616, and Robert Greene Sterns, Esquire, Registration No. 28,912; Edward J. Keasler, Esquire, Registration No. 25,688; Jorge A. Goldstein, Esquire, Registration No. 29,021; David K.S. Cornwell, Esquire, Registration No. 31,944; Robert

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Appl. No. 10/163,871  
Docket No. 1875.1540001

W. Esmond, Esquire, Registration No. 32,893; Tracy-Gene G. Durkin, Esquire, Registration No. 32,831; Michele A. Cimbal, Esquire, Registration No. 33,851; Michael B. Ray, Esquire, Registration No. 33,997; Robert E. Sokohl, Esquire, Registration No. 36,013; Eric K. Steffe, Esquire, Registration No. 36,688; Michael Q. Lee, Esquire, Registration No. 35,239; Steven R. Ludwig, Esquire, Registration No. 36,203; John M. Covert, Esquire, Registration No. 38,759; and Linda E. Alcorn, Esquire, Registration No. 39,588; Lawrence B. Bugalsky, Esquire, Registration No. 35,086; Donald J. Featherstone, Esquire, Registration No. 33,876; and Robert C. Millonig, Esquire, Registration No. 34,395, all of STERN, KESSLER, GOLDSTEIN & FOX P.L.L.C., 1100 New York Avenue, N.W., Suite 600, Washington, D.C. 20005-3934, power to insert in this assignment any further identification that may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

IN WITNESS WHEREOF, executed by the undersigned inventor(s) on the date opposite his/her name.

Date: \_\_\_\_\_ Signature of Inventor: \_\_\_\_\_  
(1) Thomas D. KWON

Date: \_\_\_\_\_ Signature of Inventor: \_\_\_\_\_  
(2) Jonathan S. MIN

Date: \_\_\_\_\_ Signature of Inventor: \_\_\_\_\_  
(3) Fang LU

Date: 09 Sep 2002 Signature of Inventor: Thomas J. Kolze  
(4) Thomas J. KOLZE

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